WHAT IS CLAIMED IS:

1. A sound-source search system comprising:

a spherical, semi-spherical or polyhedral baffle;

a plurality of microphones that are arranged on the surface of said baffle for picking up sound in all directions;

an amp that amplifies analog signals, which are electrical signals for the sounds in all directions that were picked up by said plurality of microphones;

an A/D converter that converts the analog signals that were amplified by said amp to digital signals;

an arithmetic-processing apparatus that performs arithmetic processing on the digital signals that were converted by said A/D converter, and analyzes the direction from which the sound from the sound source comes, and/or estimates the intensity of the sound from the sound source;

a memory apparatus for storing the results of the arithmetic processing by said arithmetic-processing apparatus;

a display apparatus that displays the intensity distribution of the sound from the sound source based on the results of the arithmetic processing by said arithmetic-processing apparatus; and

an input apparatus for entering the distance to the sound source, or sound sources generated at a plurality of sites on boundary surfaces; and wherein

said arithmetic-processing apparatus, by arithmetic processing, finds the amplitude characteristics and phase characteristics of each of the acoustic signals picked up by said

plurality of microphones, after which it combines that signal information with analysis information for the sound field around said baffle, and together with performing arithmetic processing to emphasize the sound coming from a specific direction for all directions, and identifying the direction from which the sound comes, it estimates the intensity of the sound from the sound source or sound source(s) generated at one or more of sites on boundary surfaces based on the arithmetic-processing results and distance(s) input from said input apparatus.

2. The sound-source-search system of claim 1 further comprising one or more directive or non-directive sound-source elements that generate sound waves and that are arranged on the surface of said baffle; wherein

said arithmetic-processing apparatus, by arithmetic processing, finds the amplitude characteristics and phase characteristics of each of the reflected sounds that are picked up by said plurality of microphones, after which it combines that signal information with analysis information for the sound field around said baffle, and together with performing arithmetic processing to emphasize the sound coming from a specific direction for all directions, and identifying the direction from which the reflected sound comes, automatically measures the distance from the baffle to the sound source or sound source(s) generated at one or more sites on boundary surfaces by using the time difference from when the test sound was generated to when the reflected sound was picked up; and uses that value as information for estimating the intensity of the sound from the sound source or sound source(s) generated at one or more sites on boundary surfaces, and/or estimating the intensity of the sound reflected from that area.

3. The sound-source-search system of claim 1 or claim 2 further comprising one or more light-receiving elements that are arranged on the surface of said baffle such that the imaging ranges overlap; and wherein

said arithmetic-processing apparatus takes in the image from said one or more light-receiving elements that corresponds to the direction from which said specific sound comes, and combines and displays the image of the arrival direction and/or intensity of the sound distribution found through said arithmetic processing with that image or the result of image processing based on that image.

4. The sound-source-search system of claim 3 further comprising one or more light sources that are arranged on the surface of said baffle; and wherein

said arithmetic-processing apparatus automatically measures the distance from said baffle to sound sources generated at a plurality of sites on boundary surfaces by using the time from when light was generated until the reflected light was taken in; and uses that value as information for estimating the intensity of the sound from the sound source or sound source(s) generated at one or more sites on boundary surfaces.

5. The sound-source search system of claim 3 or claim 4 wherein

said arithmetic-processing apparatus performs image processing on the area of the imaging range of said light-receiving elements that overlap, and automatically measures the distance to the sound source or sound source(s) generated at one or more sites on boundary surfaces.

6. The sound-source-search system of any one of the claims 1 to 5 comprising a plurality of said baffles; and wherein

said arithmetic-processing apparatus finds: the distance from one of the baffles to the sound source or sound source(s) generated at one or more sites on boundary surfaces and/or the direction from which the sound comes; the distance from other said baffle to the sound source or sound source(s) generated at one or more sites on boundary surfaces and/or the direction from which the sound comes; and the positional relationship between said baffles; after which, based on this information, uses the theory of triangulation to find the distance to the sound source or sound source(s) generated at one or more sites on boundary surfaces.

7. The sound-source-search system of any one of the claim 1 to 6 further comprising one or more satellite microphones that are arranged at locations separated from the surface of said baffle; and wherein

said arithmetic-processing apparatus uses the sound picked up by said plurality of satellite microphones to find the direction from which the sound comes and/or intensity of the sound from the sound source.

8. The sound-source-search apparatus of any one of the claims 1 to 7 wherein said baffle is installed at the top of a long member such that it is held at a specified height above the ground.